

The image shows a flight plan document from the Federal Aviation Administration. At the top center is the FAA logo, which features a globe with a torch and the words "FEDERAL AVIATION ADMINISTRATION". Below the logo, there are several handwritten entries and stamps. On the left side, there is a stamp that reads "PHAD46 W 310 MO. SN487 TCEC". In the center, there is a stamp that reads "DAL473 M 350 MO. SN508 PHNL". To the right of this, there is a stamp that reads "[DAL463 H 340 MO. SN487 PHNL]". Further down, there is a stamp that reads "LA 7102MS-4". Below that, there is a stamp that reads "AAL752 N 340 MO. SN481 PHNL". At the bottom left, there is a stamp that reads "ANL27 N 340 MO. SN457 PHNL". There are also some other smaller stamps and markings scattered throughout the document.

The image is a composite of two parts. The top part features the official seal of the Federal Aviation Administration (FAA), which is a circular emblem with a globe in the center, a torch, and the words "FEDERAL AVIATION ADMINISTRATION" around the perimeter. Below the seal, the text "1949-1960" is visible. The bottom part is a flight plan or map showing several flight paths and aircraft identifiers. The flights listed include:

- DAL473** (M) with flight number **3350**, originating from **MO** and heading towards **PHNL**.
- DAL463** (M) with flight number **340**, originating from **MO** and heading towards **PHNL**.
- AAL752** (M) with flight number **350**, originating from **MO** and heading towards **PHNL**.
- AAL27** (M) with flight number **340**, originating from **MO** and heading towards **PHIL**.
- PHAD463** (M) with flight number **310**, originating from **MO** and heading towards **PHNL**.
- PHIL** (M) with flight number **340**, originating from **MO** and heading towards **PHIL**.

The flight paths are indicated by dashed lines connecting the aircraft identifiers to their respective destinations. The map also shows various geographical locations and flight numbers, such as **MO**, **PHNL**, **PHIL**, **PHAD**, and **PHIL**.

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Agenda

- Background
- Aviation Weather Technology Transfer
- What Led to Development of Roadmaps
- What are the Roadmaps and their Structure
- Thunderstorm Roadmap
- In-Flight Icing Roadmap
- Outlook



Background

- FAA spends roughly \$20 Million per year on Aviation Weather R&D
- R&D efforts are maturing rapidly in recent years
- Challenge: What is the most efficient way to graduate R&D results into operations?
 - Ensure adequate funding beyond R&D phase
 - Identify and resolve regulatory compliance issues
 - Ensure accessibility by all users
 - Inform all users of changes in products and services and ensure their needs are adequately addressed



Aviation Weather Technology Transfer

- A process by which FAA/NWS can effectively manage and accelerate the technology transfer from weather R&D to operational production and operation
- A management review/decision making process model superimposed on aviation weather R&D life-cycle from inception to completion of technology transfer
- A set of decision criteria applied successively at various stages of the technology transfer life cycle
 - Incrementally increase the level of precision (i.e., qualitative to quantitative)
 - Incorporate proactive budget planning
- A means to communicate with industry and users



What led to Development of Roadmaps

- Users concerns have been:
 - Present development process yields a patchwork of multiple, overlapping, and potentially inconsistent products
 - Products are introduced without consideration of regulatory impact
- Concerns about product proliferation and regulatory impact are systemic and call for a *roadmap*

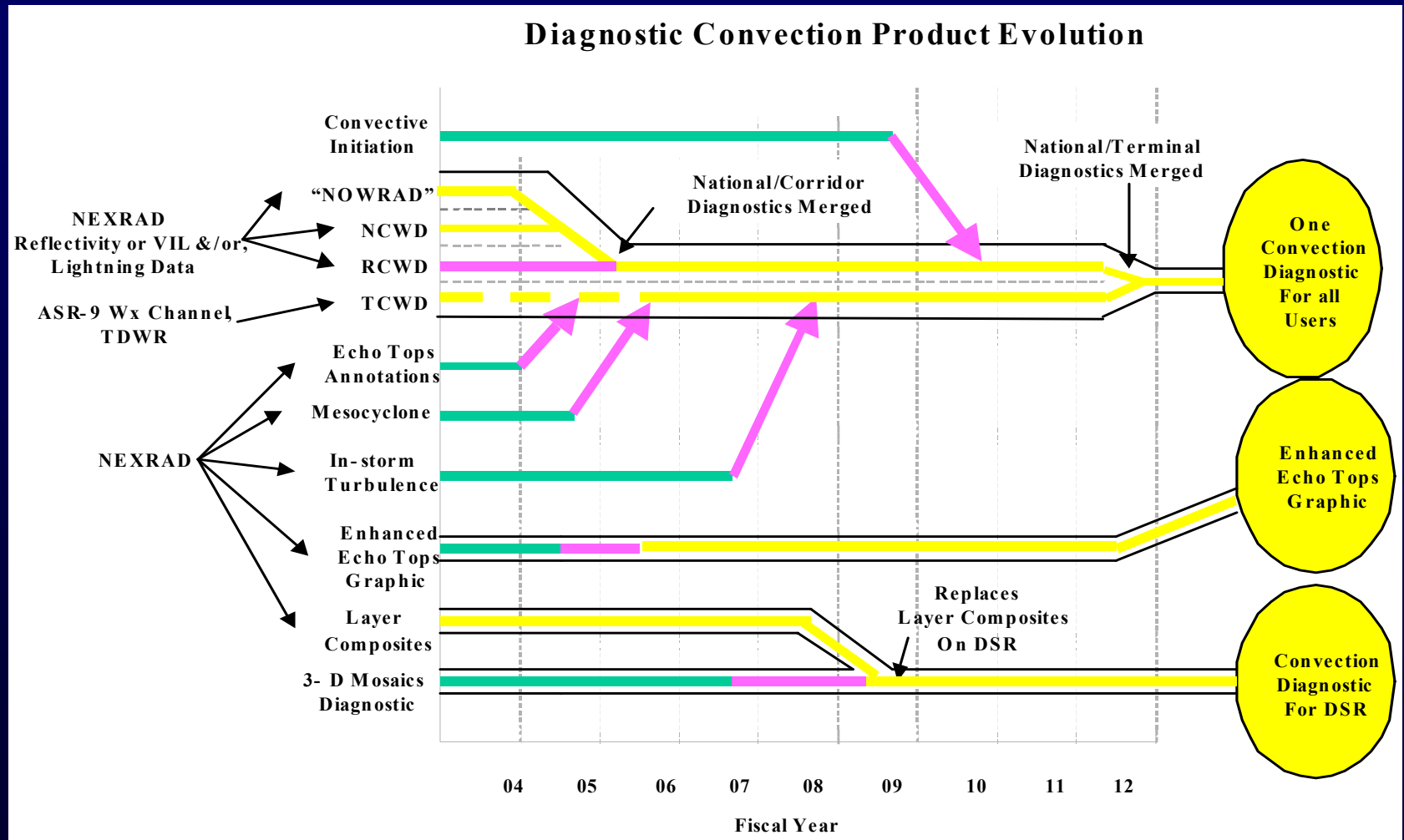


What are the *Roadmaps* and their Structure

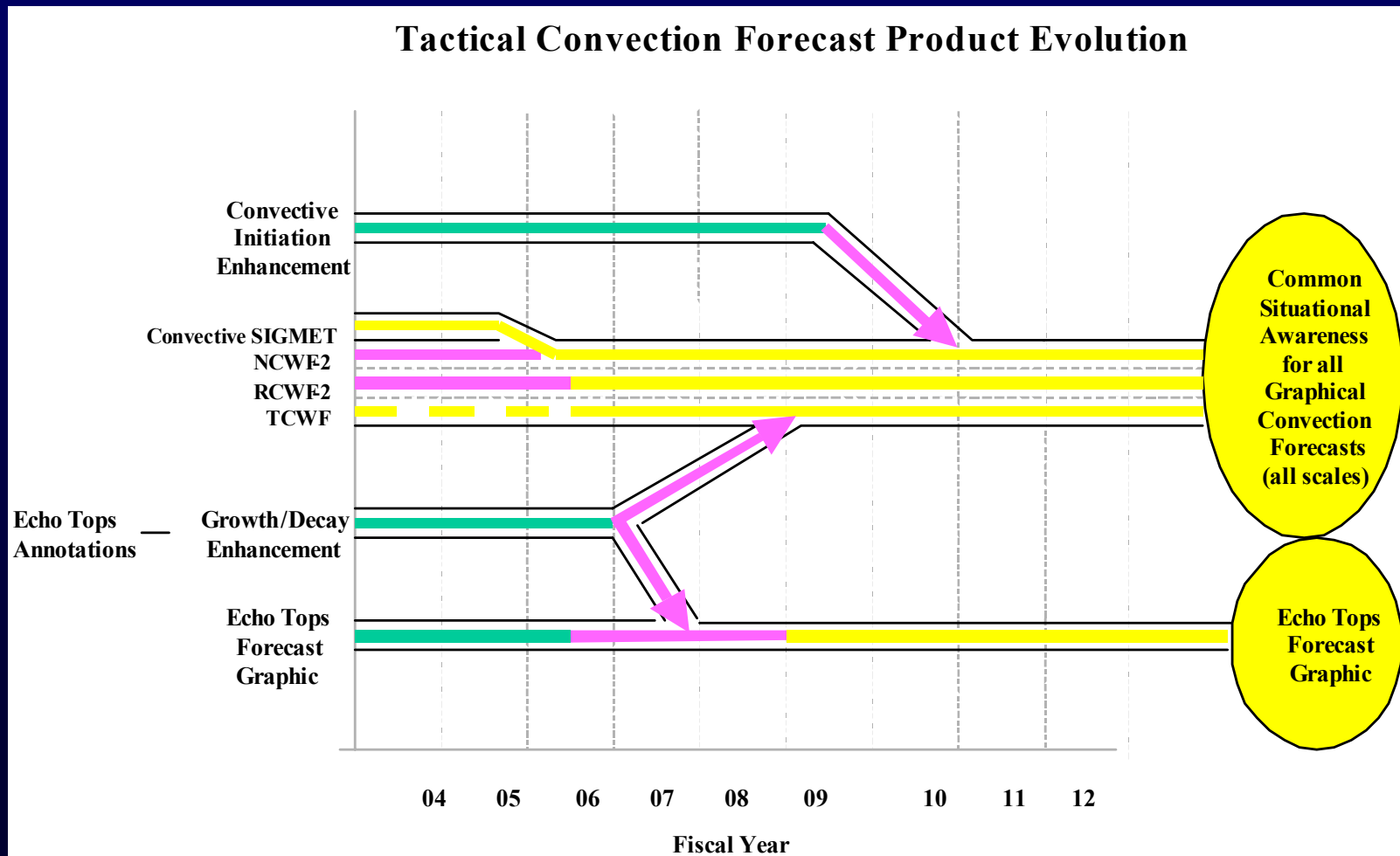
- High-level blueprint of the evolution of weather products and services in the NAS resulting from the transfer of maturing R&D products into operational use
- Aviation Weather *Domain*-based
 - Ten volumes (Introduction plus nine separate volumes corresponding to a weather domain, e.g., thunderstorm, in-flight icing, etc.)



Thunderstorm Roadmap

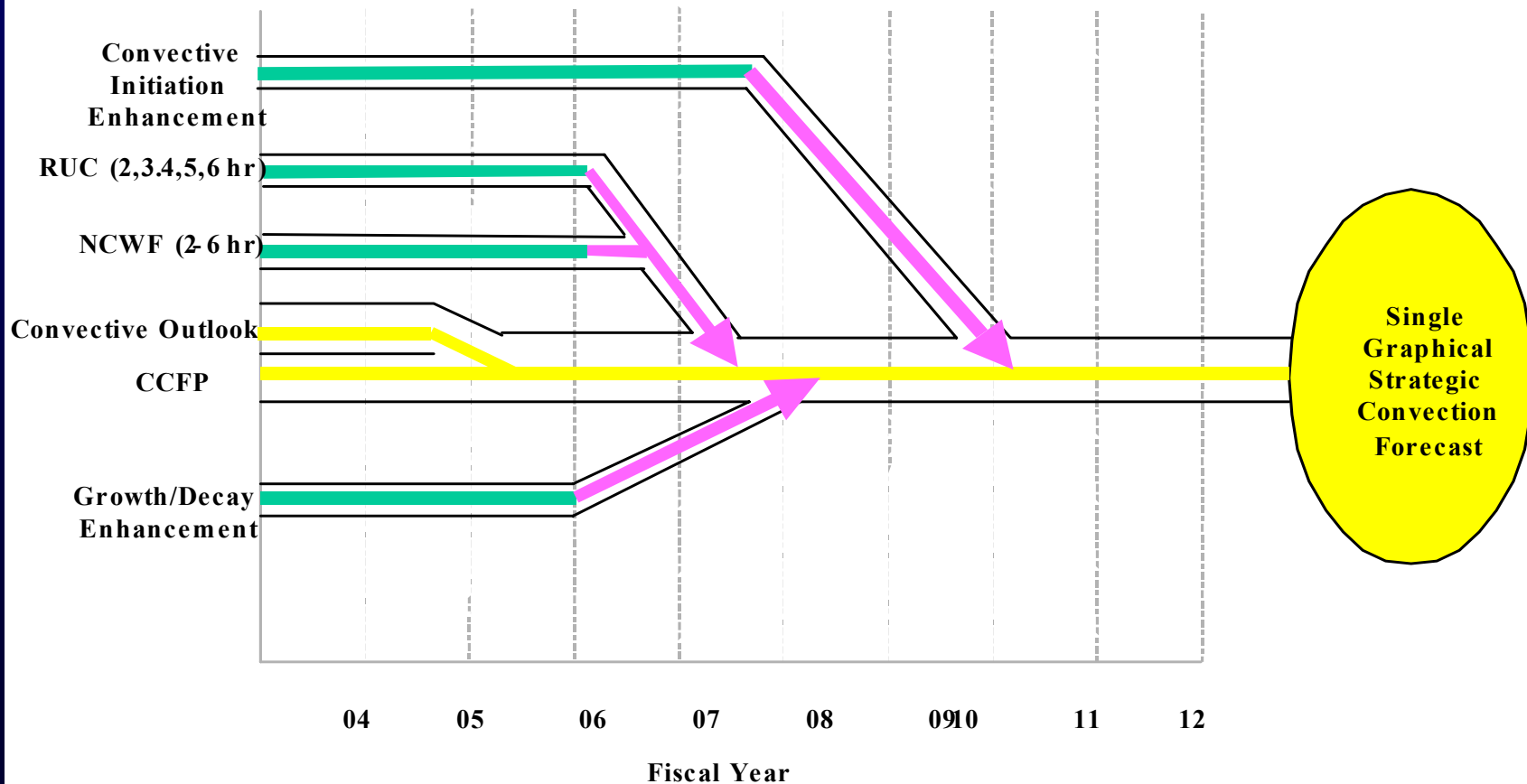


Thunderstorm Roadmap (Continued)



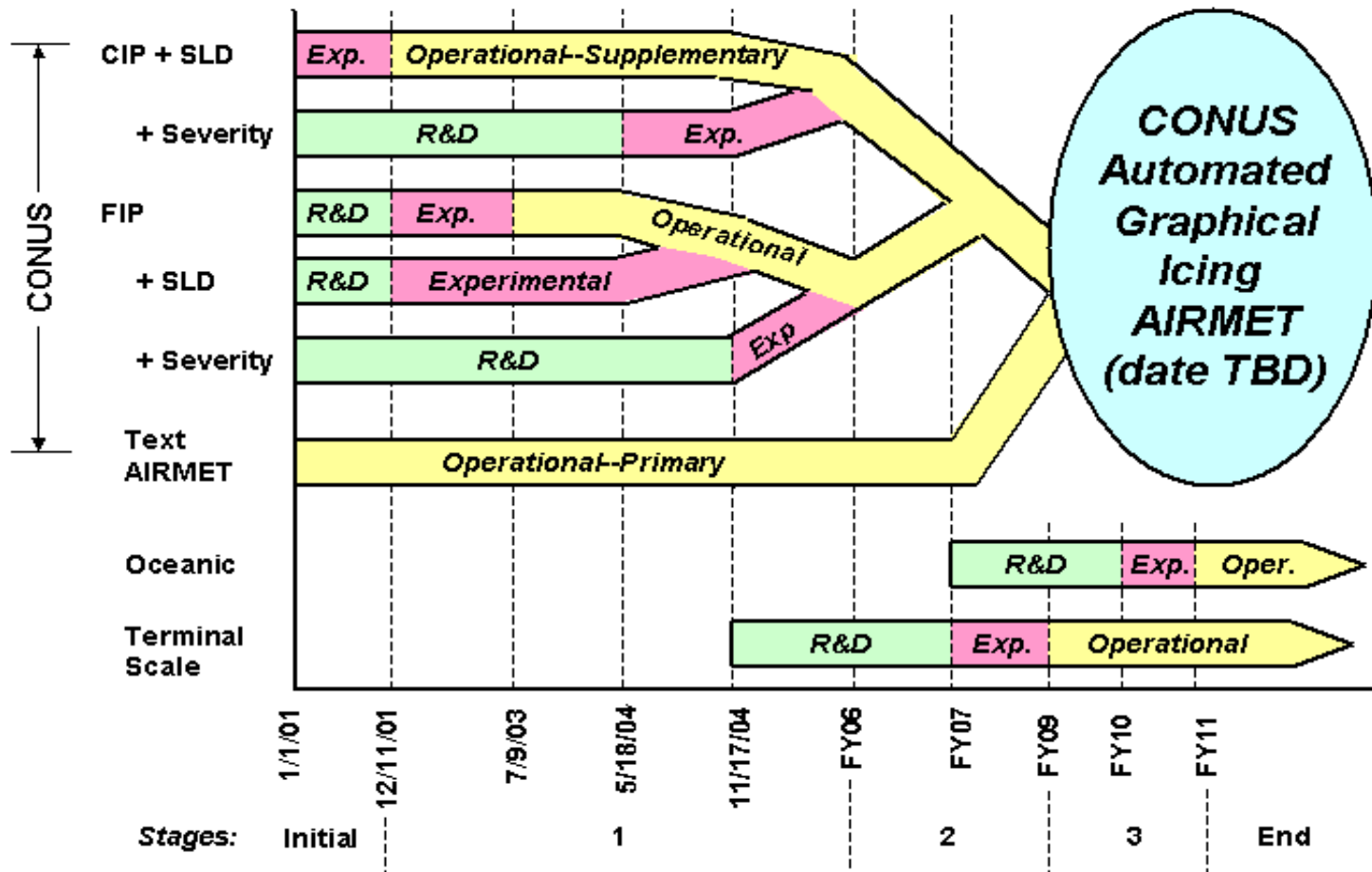
Thunderstorm Roadmap (Concluded)

Strategic Convection Forecast Product Evolution



In-Flight Icing Roadmap

Evolution of In-flight Icing Products



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- DAL473 M 340 MO. 8N450 PHNL
- DAL463 340 MO. 8N450 PHNL
- PHAD465 M 310 MO. 8N450 PHNL
- AAL752 350 MO. 8N450 PHNL
- AAL727 340 MO. 8N450 PHNL

The flight paths are indicated by dashed lines connecting the aircraft identifiers to their respective destinations. The map also shows various airports and flight numbers, such as PHNL, PHAD, and PHIL.

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The image is a composite of two parts. The upper part features the official seal of the Federal Aviation Administration (FAA), which is a circular emblem with a globe in the center, a torch, and the words "FEDERAL AVIATION ADMINISTRATION" around the perimeter. Below the seal, the text "14-00000-1" is visible. The lower part is a flight plan map of the United States, showing various airports and flight paths. Key airports marked include DAL (Dallas), PHX (Phoenix), AAL (Albuquerque), and PHN (Phoenix). Flight paths are indicated by lines connecting these airports, with some paths labeled with flight numbers like "DAL 473", "PHX 463", "AAL 752", and "PHN 463". The map also shows other airports like "DAL 473", "PHX 463", "AAL 752", and "PHN 463". The flight plan is dated "14-00000-1".